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Foreign Agriculture

AUSTRALIAN SHEEP (SEE ARTICLE ON PAGE 140)

FOREIGN AGRICULTURAL SERVICE, U. S. DEPARTMENT OF AGRICULTURE

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FRONT COVER

Australian Sheep

Sheep in sun and shadow, in southern New South Wales, Australia. Australia has about 130 million sheep; New Zealand, about 40 million; together they raise 20 percent of the world's sheep and produce 40 percent of the world's wool.

BACK COVER

Cotton Acreage, Production, and Exports in Central America

Since 1950, cotton growing has been on the increase in Central America, in the three countries, Nicaragua, El Salvador, and Guatemala. Exports have risen with production; from this year's crop nearly 260,000 bales are available for export.

NEWS NOTE

FAS and National Cotton Council Seeking Greater European Cotton Use

Foreign Agricultural Service and the National Cotton Council have joined in a cooperative effort to increase the consumption of cotton in Western Europe.

The opportunities are believed to be excellent. The United States, having developed many uses for cotton in the past two decades, has increased its per capita use of cotton more than 20 percent. It is believed that many of these uses also can be developed in Western Europe where consumption is only slightly above prewar.

Credit for photos is given as follows: pp. 133, 147-148, Charles H. Barber; pp. 136-137, W. G. Ogg; pp. 140-141, 149-151, Australian News and Information Bureau.

FOREIGN AGRICULTURE ALICE FRAY NELSON, EDITOR

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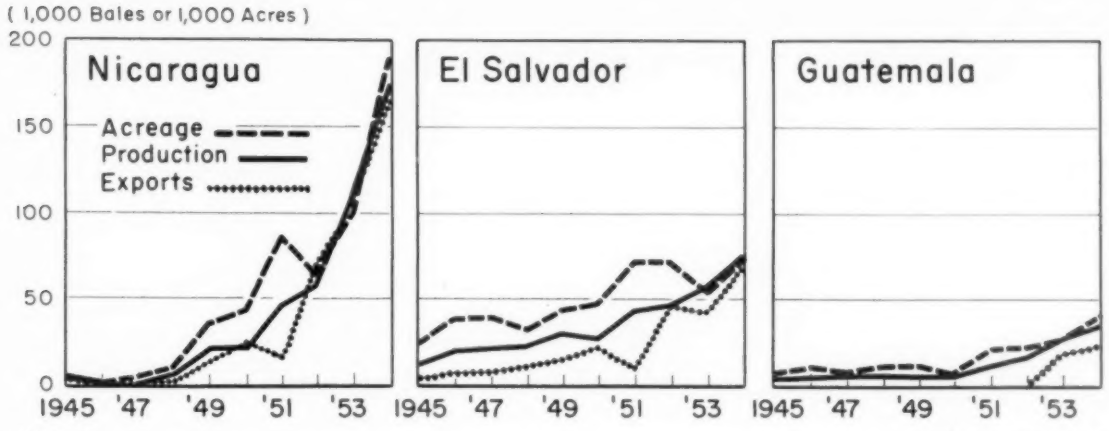


Cotton Crops Increase In Central America

By CHARLES H. BARBER

Cotton growing is a popular thing nowadays on the Pacific side of Central America. There, on a narrow stretch of land extending inward for a distance of 15 to 50 miles, three countries—Nicaragua, El Salvador, and Guatemala—are growing cotton on a sharply increased scale.

In those three countries cotton farmers have just finished picking their largest crop on record—a total of 300,000 bales. The amount is impressive in itself but is more so when it is contrasted with only 50,000 bales 4 short years ago and with an even smaller amount as the average for 1945-49. A further increase of 100,000 bales is expected in 1955-56; and, in a few years, local estimators say, total production will be somewhere between 700,000 and 900,000 bales.

The first sharp rise in cotton planting in this area occurred at the turn of the decade, when farmers, responding to weak export demand and low prices for sesame and other crops, reduced their acreage in those crops and began to plant cotton. At that time cotton prices were unusually high: in 1950-51, the first year of war in Korea, Central American cotton was exported for as much as 85 U.S. cents a pound. Since that time, prices of 35 to 40 cents have made cotton one of the most profitable crops in Central America. Even now, though most cotton from that region sells at prices slightly lower than those quoted on United States markets, prices are considered high enough to encourage further expansion of acreage.

The high prices, especially those in 1950-51, were a tremendous stimulant. In the first place, they engendered high enthusiasm for cotton growing in both official and private circles, an enthusiasm that in itself has been a power for development in the new industry. In the second place, they made it possible for growers to make high profits and to get the capital they needed to import machines, planes, gins, and other equipment. Much of the land that has gone into cotton was formerly jungle and undergrazed pasture and has required considerable investment to prepare it for use.

Nicaragua was the first of the three countries to make substantial increases in its cotton plantings. It is now the largest producer, and its cotton may soon outdistance coffee to become its largest export

New cotton fields in Central America are supplying mills in Japan and Europe. Mr. Barber, who is an Agricultural Economist in FAS's Cotton Division, visited these fields early in the year, at the height of the picking season.

commodity. This year's crop, at 35 U.S. cents a pound, is worth approximately $31 million.

El Salvador, though it closely followed Nicaragua in developing production, has not increased production as rapidly. That it has not, owes mainly to the fact that it is the smallest and most densely populated of the Latin American Republics and therefore has special responsibilities for maintaining adequate food production. Besides, more than two-thirds of its area is too mountainous for large-scale farming of any kind.

In Guatemala, cotton expansion got a late start, mainly because of the unsettled political conditions that preceded the overthrow of the national government in July 1954. As a result of those conditions, private capital was not at first available for investment; besides, land was being expropriated by the government for distribution among tenants. Before July 1954, therefore, most of the expansion in cotton acreage took place on land owned by government officials or in temporary custody of a government agency after expropriation. Even now about one-third of the cotton crop is produced on land in the custody of the government pending a decision by an international court as to rightful ownership.

Nearly all the cotton in Central America is grown on large plantations. But in Nicaragua an increasing number of individuals, mostly urban business men, are renting acreages from large landholders and planting them to cotton; and in El Salvador a few small parcels of land, less than 50 acres each, are being rented from plantation owners for the same purpose. Nowhere is cotton grown under a share-cropping system.

In each country a cooperative has been organized. In Nicaragua tractor rental stations have been established for cooperative use; and airplane application of insecticides is arranged on a cooperative basis. In El Salvador all cotton growers belong to a cooperative, which supplies materials, equipment, and services. In Guatemala members of the cooperative produce about 60 percent of the country's crop and gin even more; they receive benefits such as those that come from cooperative marketing, centralized purchasing of equipment at discount, and the cooperative ownership of several gins.

Farmers have received technical information on cotton growing and marketing from three principal sources: From firms in other countries, principally in the United States, that sell machinery, equipment, and insecticides to Central America; from their own government officials and their cotton cooperatives; and from their agricultural experiment stations. In general, farmers have adopted United States methods of cultivation, varieties, farm equipment, and ginning machinery, and have quickly reached a level of efficiency that is equal to that in some of the best cotton-producing areas in the United States. Mechanized equipment is used in nearly all the cotton fields: in Nicaragua, in about 95 percent; in El Salvador, in 60 to 75 percent.

Yields average about a bale to the acre in each country, but many of the fields produce as much as 2 bales to the acre.

Soil and Climate

All through the coastal areas of these three countries the soil is excellent for cotton, though quite different from that in the United States. It is a fine, dry ash of volcanic origin, highly fertile. It is extremely porous, permitting water to soak in readily, and dries so quickly that cultivation is possible within a few hours after a heavy rain. But its fineness also makes it subject to severe erosion by both wind and rain and permits the leaching of fertilizer, especially where the land is rolling.

Because of the fertility of the topsoil in most of the region, very little fertilizer has been used thus far. The need for fertilizer, however, will eventually become more urgent, and the use of it is expected to be increased substantially this year.

The climate, too, is favorable to cotton. Instead of winter and summer as we know them, Central America has a wet season, beginning in mid-April and lasting through November, and a dry season. Planting is done between showers in July; picking begins late in November and lasts into spring. The hot dry weather from December through mid-April opens the bolls quickly and makes ideal conditions for both picking and ginning.

Varieties

In Nicaragua nearly all the cotton grown is Delfos, an upland variety from the United States, with staple lengths ranging from $1\frac{1}{32}$ to $1\frac{3}{32}$ inches. The experiment station near Managua made a series of variety tests last year and may recommend that all growers shift to Acala 1517 in 1955. About 2 years would be required to make the change.

In El Salvador, DPL-15, another United States upland variety with a staple length of $1\frac{1}{32}$ to $1\frac{3}{32}$

inches, virtually monopolizes the fields. The cooperative, which does all the ginning, will gin nothing but DPL-15 until all the seed needed for planting has been set aside.

DPL-15 dominates the scene also in Guatemala.

Planting seed for both Nicaragua and Guatemala is imported from the United States through commercial channels.

Insect Pests and Diseases

The profuse rainfall that Central America has during the cotton-growing season is not an unmixed blessing, for although it stimulates plant growth it also encourages insect pests and fungus diseases. With no freezing temperatures between seasons to help control the pests, they infest the cotton crop every year in large numbers.

The most destructive insect is the false pink bollworm; control is possible only at hatching time. The army worm is more numerous, but it is easier to control because it feeds on leaves and can always be reached by insecticides. The boll weevil, too, is prevalent but can be controlled by frequent dusting, as can aphids, which have been the bane especially of Nicaragua.

During the first half of the century, the insect pests in Central America were so destructive that cotton growing was virtually abandoned. Application of insecticides with ground equipment proved much too slow to cope with the insects. But in the last few years a successful way has been found to control heavy infestation on large areas during the rainy growing season—and that is to use airplanes for frequent applications of insecticides.

In both Nicaragua and El Salvador dusting and spraying are done entirely by airplane on regular schedules. It is of course a high-cost operation, but it is probably the greatest factor in these countries' being able to grow cotton with profit in recent years. In Guatemala, too, dusting and spraying are done mainly by airplane; but a few growers are still using ground equipment.

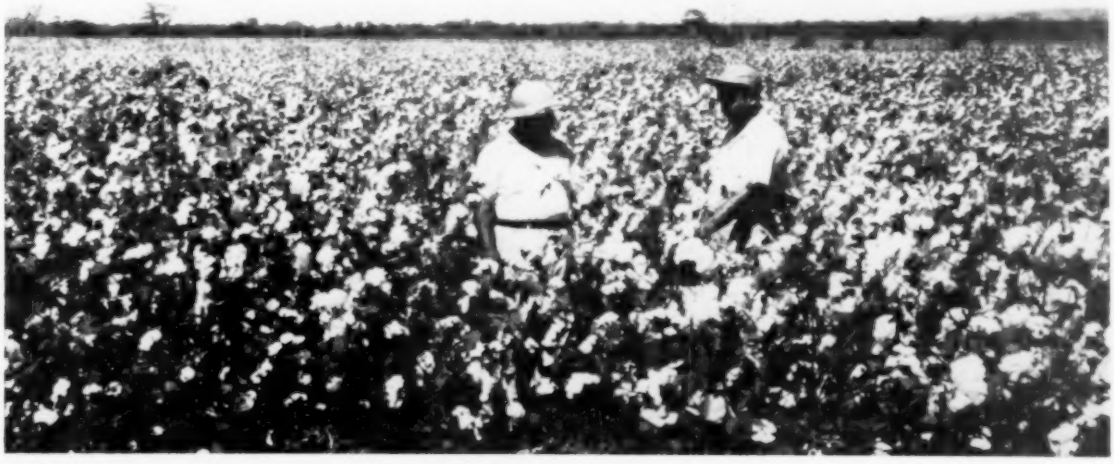
As for diseases, the only ones that cause appreciable loss are root rot and boll rot. Nicaragua and El Salvador had some losses from boll rot in 1954-55, owing to excessive rainfall during the growing season. They also had some bacterial leaf spot and wilt (possibly fusarium). Guatemala reported no diseases.

Cotton Picking

Labor for cotton picking seems to be barely adequate, simply because all crops are harvested at the same time—in the dry season, from November to April.

To adjust to this seasonal labor shortage, a few growers are resorting to cotton-picking machines. These machines have not proved generally satisfactory, however. In Nicaragua, for example, cotton varieties are too tall—3 to 6 feet—for efficient machine picking; besides, only one gin in the country has the special equipment needed for the proper cleaning of machine-picked cotton.

(Continued on page 146)



A field of cotton near Managua, Nicaragua. Delfos has been the most widely grown variety in Nicaragua; other, less popular, varieties are Coker 100 Wilt, Acala 1517, DPL-15, and Stoneville.

Our Farm Export Outlook

By GWYNN GARNETT

For the years ahead, prospects are best for expanding the export of those farm products that American agriculture can produce at prices that are competitive in the world market. Such commodities include cotton, wheat, tobacco, soybeans, feed grains, animal byproducts, and fruits. . . .

Beginning with 1952, our agricultural exports dropped precipitously. This has contributed to accumulations of burdensome surpluses, which in some cases continue to increase. The rigid domestic price support program, which was designed to stimulate production for wartime emergencies, has limited exports ever since the war-born demand for farm products came to an end. The rigid high price support program has limited exports in three ways.

1. It has priced some U.S. farm products out of the world market;

2. It has encouraged competing production abroad; and

3. It has not been sufficiently geared to production of high-quality products.

Our current farm program aims at flexible price supports. As soon as flexible supports have had a chance to become effective, this will help to correct the three shortcomings outlined above. It will help keep our foreign agricultural trade primarily in the hands of private traders and out of the hands of the Commodity Credit Corporation, and it will allow United States farmers more leeway to compete in world markets on the basis of quality and price. This they can do effectively in many important commodities.

The world's market for agricultural products is expanding. United States farmers have the opportunity and ability to compete for a substantial share of that expanding market. The efficiency of our agricultural production is such that for many commodities we are in position to supply foreign customers with high-quality products at competitive prices.

Expanding markets for U.S. farm products abroad should be based on sound principles. These principles, I believe, are that—

1. We must be prepared to compete fairly on the world market.

2. We must be competitive in quality and in price.

3. We must participate in a mutually profitable international trade that gives our customers abroad the continuous opportunity to earn foreign exchange needed to buy our products.

4. Private producers and traders must assume the principal responsibility for maintaining and expanding foreign markets.

Our world position leaves us no choice but to base our foreign agricultural marketing on sound principles that are in harmony with our foreign policy objectives and our position of world responsibility. If we deviate from these principles, our foreign markets for farm products will have no sound foundation.

As we move toward our long-range objectives, we should look on our present-day export programs as transitional. Their need is due to the fact that for more than a decade we have had abnormal demand and supply conditions in the world agricultural market, which were followed by a precipitous drop in export demand. Interim programs . . . are costly to United States taxpayers. In the long run our foreign markets can be maintained only if we increase the basic strength of our agricultural economy.

Our present surpluses—the Commodity Credit Corporation inventory alone is between $4 billion and $5 billion—deny 2½ million American farmers the right to use their land for maximum profitable production. The pressure that results tempts some producers and traders to look to the Government to assume increasing responsibility for marketing farm products abroad. If the United States Government assumes the main responsibility for marketing farm products abroad, however, we can expect that agriculture's interests will be subordinated to broader national interests of security and foreign relations. No problems of subordination will arise if the responsibility for producing and offering the quality of products that are desired abroad at competitive prices rests with private producers and traders. Agriculture's interests will then be best

Mr. Garnett is Administrator, FAS.

protected and a free-choice economy will be preserved. . . .

As we work toward helping American agriculture secure its rightful place in the world market, we must keep firmly in mind the mutuality of trade. The only way that trade can stand on its own feet, independent of Government subsidy and support, is for foreign customers to be in the continuous position of buying our products with earned dollars. There is only one businesslike way for them to earn those dollars, and that is by assuring them opportunity to sell goods and services to us.

Expanding foreign markets for our agricultural products depends in large measure on the continuation of multilateral and nondiscriminatory world trade. The trade agreements machinery is essential to insure such trade. United States leadership in seeking the establishment of multilateral world trade is more effective today than at any time since the trade agreements program was initiated. Under constant urging, other countries are now taking steps to relax their restrictions against imports of farm products from the United States. Some progress has been made. Further trade liberalization and progressive elimination of discrimination against dollar products are needed, however, if United States farm products are to be able to compete at equal terms with those of other countries. Currency convertibility is being actively discussed among European countries. The advantages to be realized by the United States trade generally, and by American agriculture in particular, from such measures are very great. These advantages, however, may well be lost if the United States should abandon its present leadership in this movement for an expanded world trade.

As keepers of the world's greatest storehouse of agricultural supplies, we are affording the leaders of the world a great and unusual opportunity to improve the living standards of their countries. Our Congress has made it possible for the United States to help the world attack today's impoverishment on a scale unequaled in history, and unlikely in the future. Congress has authorized sales for foreign currency, barter, deferred payments, and relief. Under Public Law 480, surplus agricultural products may be sold for foreign currency and a part of that currency loaned back to the country for economic development. Underdeveloped nations may thus "eat themselves into capital for development." If people have anything with which to pay, or any resource to develop for future payments, they can eat better now.

This is an important though necessarily limited opportunity. . . . for we look on this era of Government marketing programs as a period of transition to help us move from an unsound domestic farm program to a sound one. In the years to come, we expect agricultural producers and traders of the United States to be the senior partners in the marketing of American farm products. We hope that the future era will be one in which private sales in the free market will move the overwhelming part of our farm exports, with Government export programs having become a page of our history.

—Adapted from an article that appeared in the New York Journal of Commerce *on May 23, 1955.*

New Releases On World Agriculture

Rice and Crops in its Rotation in Subtropical Zones, by Eikichi Iso, published by the Food and Agriculture Organization Association of Japan, Tokyo, 1954. $10.

Forty years of research on rice in Formosa and on the crops used in rotations with rice have been brought together in this 611-page book, written by a scientist and practical plant breeder who is given much of the credit for the advances made in agriculture in Formosa over the past four decades. Rice yields there have almost trebled in the past half century, thanks in part to the work of Dr. Iso and his colleagues.

Rice takes up the first half of the book. The second half is devoted to crops rotated with rice: sweetpotatoes, flax, and wheat; vegetables, tobacco, peanuts, Indian corn, rape, and green manure crops; and jute, ambary hemp, and ricinus. Backing up each section is a detailed record of the experiments that the author and his staff have carried out and that constitute the basis for their conclusions.

The value of this book is not limited to the agriculture of Formosa. It represents fundamental work comprehensive in scope and will undoubtedly prove an important document for rice agriculturists all over the world.

Appointment with The Italian Farmer— Verona's International Farm Fair

One of the world's big agricultural shows is the international agricultural fair held every spring at Verona, in northern Italy. Here Italian and foreign firms exhibit what is new in agricultural equipment and farm machinery. And here many Italians and foreigners display their poultry and their horses, dairy cattle, beef cattle, and other livestock.

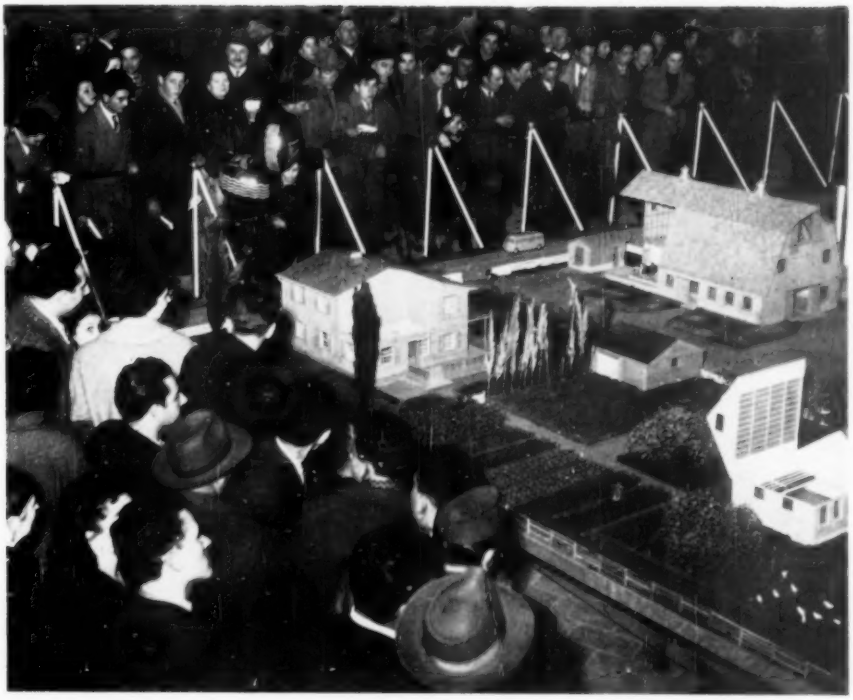
Many animals are sold on the spot during the fair, and many machines are ordered, as a result of the concentrated shopping the farmers do at fair time. As Verona's agricultural weekly paper remarked, many Italian farmers attend primarily "to get oriented: to see if there is a better tractor than the one their neighbor bought, or a machine with improvements not known in their region. . . . No firm worth its salt would fail to keep this annual appointment at the Verona Fair. Above all, it gives producers a chance to look around at the competing output and to study the consumer's likes and preferences."

At this spring's fair, the 57th in an uninterrupted series, more than 60 American firms presented exhibits of various kinds, and the United States Government presented an official exhibit, the first it has shown at any trade fair in Italy. One of the popular features of our show was a Corn Belt farm in miniature, complete with buildings, machines, animals, gardens, and even a highway with a bus passing. Leaflets in Italian gave figures on production of crops and livestock and on costs and profits for such a farm. The other features of the United States exhibit were a cross-sectional plastic cow with moving parts that showed the operation of the "milk factory" and a plastic hen illustrating the "egg factory." Both cow and hen told their stories to visitors in Italian, through tape recordings. The cow stressed the advantages of hay in her diet. The hen urged her Italian cousins to demand a balanced diet and the best of management methods.

The high interest that visitors to the fair exhibited in the United States displays, and the importance that Europeans attach to trade fairs, lead to the conclusion that United States exporters, as well as the Government, will find the fairs a useful means for promoting our export markets.

—W. R. Ogg,
Agricultural Attaché, American Embassy, Rome.

The United States was one of 20 countries that took part in Verona's International Agricultural Fair this year.



Visitors to the fair found this exhibit of a United States Corn Belt farm of high interest.

The U. S. plastic cow, with moving parts and wired for sound, drew many spectators.

U. S. Foreign Disposal Programs Make Headway

By RICHARD H. ROBERTS

Foreign disposal programs are helping United States farmers sell increased quantities of agricultural commodities in export markets. Three years ago, the world had about recovered from the war, and we had reached the point where we could no longer sell abroad the great quantities that we had sold during the war and early postwar years.

In these 3 years, stocks have accumulated in the United States to such proportions that by June 1, 1955, the Commodity Credit Corporation held inventories of farm commodities representing an investment of nearly $4.7 billion. Six commodities accounted for most of this inventory: Wheat, corn, cotton, butter, cheese, sorghums.

Not all of CCC's holdings represent true surpluses. Part represents normal carryover stocks and contingency reserves against some unforeseen emergency. But clearly our agricultural supplies far exceed our needs. The origin and growth of our stocks have had a direct connection with the foreign market situation. An important part of the solution to our marketing problem is represented by our present and potential markets abroad.

The stocks are still growing. But is has been possible during the past year to reverse the trend of exports—to turn it back up again.

The government's disposal programs have been an important factor in the improved export situation. But commercial sales made without government intervention are by far the largest part of the total movement abroad. And we would like especially to see that proportion grow. The government programs are, in the main, intended to supplement regular commercial sales and to help expand market opportunities.

What has been accomplished by the six main programs undertaken by the government for moving our agricultural surpluses into uses abroad?

CCC Export Sales Program. During 1954, CCC sales of price support stocks to commercial firms specifically for export amounted to about $500 million. During the first 5 months of 1955, sales have been maintained at about the same rate, amounting to over $200 million. Wheat has been the major item. Sales of cottonseed oil, corn, flaxseed, and linseed oil also have been substantial.

These figures do not tell the whole story. Some of the commodities that CCC sells to commercial firms at its domestic sales prices actually move into export outlets. There is no estimate of how much is exported this way, however.

Barter. CCC is authorized (by Section 303, Title III, Public Law 480) to barter its commodities for strategic and other materials. Such operations are conducted through the private U.S. trade.

Data on the barter program are available for July 1954 through May 1955. Contracts negotiated by CCC during that period provide for the disposition abroad of $254 million worth of agricultural commodities. Over $100 million worth have already been exported and the rest will follow.

During the full 12 months of 1953-54, barter dispositions totaled only about $30 million. The grand total for 1950 through 1954 was less than $95 million. Current operations, therefore, represent a big step-up in this activity.

About the same commodities have been moved under this program as under the Export Sales Program.

Section 416, Agricultural Act of 1949 authorizes donations of commodities from CCC inventories for relief use overseas. The commodities are made available to approved U.S. private welfare agencies, which carry out or supervise the foreign distribution.

Since these items are donated rather than sold, it is hard to place a valuation figure on them that will be truly comparable to the figures already cited. By the end of June, the 1954-55 total of commodities programmed under this Section will represent an estimated market value of almost $200 million—about 3 times the value of the preceding year. Around nine-tenths are dairy products.

Title I, Public Law 480 is one of the chief tools authorized by Congress for making effective, constructive use abroad of our agricultural surpluses. Title I authorizes CCC to incur costs not in excess of $700 million over a 3-year period to finance to sale of agricultural commodities for foreign currencies.

It utilizes private trade and banking channels to the maximum extent. The first step is the negotiation of an agreement between the United States and the government of a friendly foreign country;

(Continued on page 144)

Mr. Roberts is Director, Foreign Trade Program Division, FAS.

Value and commodity composition of agreements signed through June 27, 1955, under Title I, Public Law 480

Country and Commodity	Market Value	CCC Cost
	1,000 dollars	*1,000 dollars*
Turkey:		
Wheat	6,491	12,023
Feed grains	12,426	17,546
Cottonseed oil	4,144	5,694
Ocean transportation[1]	5,837	5,837
Total	28,898	41,100
Yugoslavia:		
Wheat	34,932	62,279
Cotton	9,600	9,684
Ocean transportation[1]	7,504	7,504
Total	52,036	79,467
Chile:		
Wheat	2,200	3,943
Cottonseed oil	2,400	3,336
Ocean transportation[1]	396	396
Total	4,996	7,675
Peru:		
Wheat	3,020	5,413
Butter	230	374
Ocean transportation[1]	380	380
Total	3,630	6,167
Pakistan:		
Cotton	21,352	21,352
Tobacco	3,000	3,000
Ghee	2,000	3,460
Linseed oil	972	1,675
Ocean transportation[1]	2,076	2,076
Total	29,400	31,563
Spain:		
Cotton	7,750	7,750
Cottonseed oil	5,000	6,929
Tobacco	4,500	4,500
Corn	1,750	2,530
Ocean transportation[1]	2,000	2,000
Total	21,000	23,709
Argentina:		
Cottonseed oil	5,450	8,393
Ocean transportation[1]	327	327
Total	5,777	8,720
Israel:		
Wheat	4,800	8,899
Rice	300	425
Cotton	1,100	1,100
Tobacco	200	200
Butter	1,000	1,599
Feed grains	3,300	5,325
Cottonseed oil	700	1,032
Ocean transportation[1]	1,600	1,600
Total	13,000	20,180
Italy:		
Cotton	35,900	35,900
Wheat	9,100	16,000
Tobacco	3,200	3,200
Ocean transportation[1]	1,800	1,800
Total	50,000	56,900
Japan:		
Wheat	22,500	41,600
Barley	3,500	4,800
Rice	15,000	21,076
Cotton	34,150	34,150
Tobacco	5,000	5,000
Ocean transportation[1]	4,850	4,850
Total	85,000	111,476
Korea:		
Cotton	9,500	9,500
Tobacco	4,700	4,700
Ocean transportation[1]	800	800
Total	15,000	15,000
United Kingdom:		
Tobacco	15,000	15,000
Ocean transportation[1]	220	220
Total	15,220	15,220
Austria:		
Feed grains	4,500	6,500
Cotton	500	500
Tobacco	500	500
Ocean transportation[1]	400	400
Total	5,900	7,900
Finland:		
Cotton	2,900	2,900
Tobacco	2,214	2,214
Ocean transportation[1]	136	136
Total	5,250	5,250
Thailand:		
Tobacco	1,900	1,900
Ocean transportation[1]	100	100
Total	2,000	2,000
Columbia:		
Wheat	1,600	2,700
Cotton	1,600	1,600
Cottonseed oil	1,000	1,400
Dairy products	700	1,200
Ocean transportation[1]	400	460
Total	5,300	7,300
Greece:		
Dairy products	2,694.5	3,727
Feed grains	2,737	3,905
Cottonseed oil	2,293.5	3,115
Wheat	5,075	9,437
Ocean transportation[1]	1,500	1,500
Total	14,300	21,684
TOTAL COMMODITY COST	326,381	430,985
TOTAL OCEAN TRANSPORTATION[1]	30,326	30,326
GRAND TOTAL	356,707	461,311

[1] Includes only ocean freight financed by CCC.

Grading and Sale o
In Australia and N

By WALTER L. HODDE

WOOL is big business in Australia and New Zealand. Together the two countries have nearly one-fifth of the world's sheep and produce about two-fifths of the world's wool. It is not surprising therefore that they have developed a precise system for grading their product and an efficient way of selling it. The excellent reputation that they have built for the quality and uniformity of their grease wool and for their straightforward public auction sales has made their wool markets attractive to customers in many parts of the world.

Sorting at the Shearing Shed

Grading the wool begins at the shearing shed. At one small shed we visited in Queensland, four men were shearing old ewes. They threw the bellies off to one side, to be handled separately from the main part, called the fleece. The fleece they threw on the skirting table, weather-side up, to be "skirted" by the classer and the piece-picker. "Skirting" consists of removing the seedy and inferior portions, which come mostly from the neck, the lower forearms, and the breech. The best skirtings were put into one bin, the inferior skirtings into another. The fleece, that is, the best part from the body of the sheep, was rolled into a bundle, flesh-side out, and deposited in one of four different bins according to quality. Thus, at this one shearing shed, from old ewes alone, we saw 7 grades of wool being separated.

The larger the clip, of course, the more elaborate the sorting. A small grower who employs, say, only two shearers, generally will not grade his fleeces at all but will leave that job to his broker; and he may not even subclassify the skirtings. On the other hand, the large growers may divide their wools into more than 20 classes, taking into account all the different kinds of skirtings, bellies, and fleeces.

Wool in each class is compressed into bales measuring 30 inches x 30 inches x 48 inches and weighing from 250 to 350 pounds; and the bales are covered with burlap or, as we saw in parts of New Zealand, a fabric made from a sisal-like fiber called New Zealand flax. Each bale is then stenciled to show its ownership, class of contents, and weight.

Mr. Hodde is Wool Marketing Specialist, Farmer Cooperative Service, USDA.

A wool classer at work in a wool shed in Victoria, judging the gr before it is offered for sale that is a noteworth

Wool-Selling Brokers

The bales of wool are shipped from the shed to the stores of wool-selling brokers, through whom nearly all the shorn wool sold in Australia and New Zealand finds its buyers. Only small amounts are sold outright by the growers.

These wool-selling brokerage firms vary in size. Some are local or regional firms, either private or cooperative, such as the Hawkes Bay Farmers Cooperative Association, Ltd., of Napier, New Zealand, which serves farmers in several counties. Some are so large that they serve in several of the Dominions and major foreign markets; such a one is Dalgetys, which is represented on practically all markets in Australia, New Zealand, and South Africa. And some are intermediate in size, such as Goldsborough Mart, which confines its operations to Australia; Queensland Primary Producers Co-

f Wool
w Zealand

In company with six United States woolgrowers, the author visited the wool-growing areas and market centers of Australia and New Zealand late last year.

of the wool by feel and appearance. It is such classing of the wool ature of the Australian system of marketing.

operative Association, which serves only Queensland; and Elder Smith and Company, located in Australia and London, which serves markets in Geelong, Adelaide, and Perth.

In addition to wool selling—though never wool buying—on a brokerage basis, these firms engage in other businesses: in production credit, for instance, and in land mortgage loans, livestock buying and selling on a brokerage basis, real estate brokerage, farm supplies and fertilizer sales, and retail sales of consumer goods.

There is evidently rather intense competition among these brokerage firms, but there is also a high degree of loyalty apparent between the broker and his client. Not only does the broker grade and sell for the grower, but he extends credit and performs other valuable services as well; and a close relationship has grown up between the two, with the grower speaking of "*my* broker" and the broker speaking of "*my* client."

Although the brokers compete with the banks, they seem to get along with them quite well. They usually charge ½ percent more interest than the banks, which currently ask about 5 percent.

When the broker receives the wool from the grower, he checks the invoice and records the weight and class of each bale. Large lots—i.e., 5 bales or more in northern selling centers, and 4 bales or more in southern—are listed in the "big catalog" and assigned to be sold in the big auction room. Smaller lots, called star lots, are auctioned separately, often in a different room concurrently with the main sale. However, brokers often follow a practice known as interlotting; that is, they combine into large lots the bales of essentially the same quality and yield from two or more growers and are thus able to offer them at the main auction, which attracts more buyers.

From each lot, samples are taken for display on the broker's show floor—about 10 percent of the bales in large lots and about 60 percent of those in small lots. A schedule specifies the exact number that is to be shown for each lot size.

Some wool that is received at brokers' stores, however, cannot immediately be assigned to auction rooms: it must first be either bulk classed or reclassed. This is chiefly the wool that has come in small lots from small growers, who usually do not sort or classify so elaborately at their shearing sheds as the large growers do.

Bulk classing is essentially a sorting job, done on the wool known as oddments—that is, the skirtings and the bellies. In this process each piece is judged as to which of more than 500 possible classes it falls into. Many pieces are found to include wool of more than one class and so are subdivided further. Finally, all the wools in each class are baled, and combined into large lots of even-running wool, ready for auction. A bale of bulk-classed wool may of course contain the product of many growers.

Reclassing is more of a grading job. It is done only on the fleeces and does not usually involve

the subdivision of any piece. Instead, the fleeces are only graded and then reassembled in uniform lots. Large lots of reclassed fleeces are generally sold under the grower's own brand. Many of the smaller lots are either interlotted or blended into large lots.

There is a trend toward more bulk classing and reclassing in Australia and New Zealand, which accompanies the trend toward smaller properties. In the southern part of Australia and in most of New Zealand, where the smaller clips predominate, 30 to 50 percent of the wool is bulk classed or reclassed.

It is in these practices of bulk classing and reclassing, as well as in interlotting and blending, that I believe we can find clues of practical value

(Continued on page 149)

Benelux Countries Integrate Their Agricultural Policies

The Benelux nations—Belgium-Luxembourg and the Netherlands—moved closer in May toward complete economic union—a goal they set for themselves more than 10 years ago. This move, though designed to facilitate trade within the area, raises no new barrier to United States trade and, hence, of itself will not cut our market for agricultural products to Benelux—an important fact to United States agriculture, which, last year, sent those countries almost $332 million worth of agricultural products, and ranked them, as a group, third among the takers of its goods.

A major obstacle to completion of the economic union has been the fundamental difference in the agricultural development and agricultural policies of Belgium-Luxembourg and the Netherlands. Unification of the three economies has been progressing gradually since the inauguration of the Benelux tariff union on January 1, 1948. At a meeting of the Committee of Benelux Ministers at Brussels in May 1955, decisive steps were taken toward unification in the field of agricultural policy also and, thereby, toward complete economic union.

The basic problem in the way of coordinating agricultural policies has been Belgian reluctance to meet Dutch competition unprotected. While Dutch agriculture has enjoyed the stimulation of a very active agricultural policy since the depression of the early 1930's, aimed at keeping Dutch farming remunerative and Dutch farm products competitive, Belgian agriculture has not had that much guidance and has not developed the level of intensive production that the Netherlands' agriculture displays. A lower level of wages in the Netherlands than in Belgium has also handicapped Belgian farmers in the competition with their Dutch colleagues. Recent increases in Dutch wages have lessened the importance of this argument, and the decisions at the Ministers' meeting in May paved the way for so-called harmonization of agricultural policies, thus promising to remove in time the two chief Belgian objections to a common Benelux agricultural market.

A major feature of the May agreement is the provision that Belgium will establish within the next year an agricultural fund to facilitate the integration of agricultural policies. It may be presumed that this fund—in the manner of the Dutch Equalization Fund and its related trade boards—will get its means through import fees primarily and will be utilized for market intervention to influence production and prices of major farm products in Belgium. The agreement also designates a 7-year period (1955-1962) for completion of the integration of agricultural policies. If accomplished, this means that at the end of the period there will be a free exchange of agricultural products within the common Benelux market.

The May agreement further provides for such matters as speedier arbitration in case of disputes, comparative studies of agricultural costs in the three countries, creation of a committee to evaluate the progress made each year and to set the program for trade liberalization, and special consideration for the agriculture of Luxembourg. A "protective clause" is included to prevent the steps taken from causing a serious depression in any sector of the agriculture of the countries.

Returns Reflect Planning In Norway's Farm Forests

Modern methods of planting and harvesting are increasing the production of one of Norway's important farm crops—trees. This increased harvest is especially significant in Norway, where nearly half of the productive forest land is on farms.

Much of the credit goes to a production planning service made available to farmers a decade ago by the Norwegian Forestry Society, a private organization set up to promote the development of the nation's forestry. In the past 10 years, farmers who have taken advantage of the service have increased their timber output by an average of 17 percent.

For a small fee—running from about 10 cents an acre for woods of 250 acres or more to around 15 cents for those of less than 75 acres—the Society will send a team of estimators to a farm to work out a detailed operating plan.

The team first determines the condition of the woods, going into such matters as cubic content, age of the trees, potential yield, and need for new plantings. Then it prepares the plan, giving detailed directions for felling, planting, and operating, specifying which trees should be cut and where it is most advantageous to begin. The recommendations are indicated on a map. Provision is also made in the plan for the farmer's own notes—the quantity of timber he cuts, working time, clearing and trenching projects, expenditures, and income.

The farmer who follows the plan, the Society states, is merely making the best use of the opportunities that nature provides; and in so doing he is getting the largest possible income from his timber now and ensuring that he has a dependable crop in the years ahead.

—Andrew Moursund, *Editor*, News of Norway, *Embassy of Norway, Washington.*

A spring log drive in Norway. More and more of the country's timber has been coming from its farm forests.

U. S. Foreign Disposal Programs Make Headway

(Continued from page 138)

this sets the terms and program framework within which the private trade can function. It also provides for the guarantees required by law that commodities sold under the agreement will not displace our regular marketings, will not unduly disrupt world prices of agricultural commodities, and will not be resold or otherwise diverted to countries unfriendly to the United States. Once the agreement is signed and purchase authorizations are issued, the private trade takes over. Contracting and the other business functions are the same as in any other commercial transactions. The difference is that CCC funds are the source from which the exporter's dollar payment comes to him through his bank.

Agreements had been signed by June 27, 1955, with 17 countries—Turkey, Yugoslavia, Chile, Peru, Pakistan, Spain, Argentina, Israel, Finland, Italy, Japan, Korea, the United Kingdom, Austria, Thailand, Greece, and Colombia. The total of all these programs amounted to $161 million in terms of CCC costs and $356.7 million at the commodities' present export market value.

Included in these programs were about 50 million bushels of wheat, 650,000 bales of cotton, 62 million pounds of tobacco, and 141 million pounds of cottonseed oil.

We are continuing to negotiate sales agreements with additional countries. These negotiations may soon add further to the totals.

Section 104 of Public Law 480 sets out the various uses that can be made of the foreign currencies received by the U.S. Treasury in payment for commodities: Under the program that have so far been agreed to, provision has been made for $113.5 million to be used for the payment of U.S. obligations abroad; that is, in areas where the Department of Defense or some other government agency requires local currency for the payment of its expenses, it can utilize the local currency from proceeds from Title I. And from that agency's appropriation, CCC in turn will be reimbursed in dollars.

A total of $58 million will be used for procuring military equipment and supplies for the common defense.

One of the more important categories from the long-range standpoint is the development of markets for our agricultural commodities. About $8 million (2.3 percent) has been earmarked for this purpose. Within the overall total, this expenditure constitutes, as might be expected, a relatively small share. In absolute terms, however, the currencies available will give our efforts to improve the market "climate" for American commodities a big boost. In our negotiations with the various foreign governments, we are insisting on market development wherever possible as an essential category in the use of local currencies.

Proposed uses of foreign currency under Public Law 480, as of June 27, 1955.

	Millions of dollars	*Percent*
Reimbursable for U.S. use:		
Payment of U.S. obligations and procurement of military equipment	113.5	31.8
Nonreimbursable for U.S. use:		
Agricultural trade development	8.2	2.3
Purchase of strategic material	2.8	.8
International Educational Exchange	2.95	.8
Purchase of goods for other countries	13.2	3.7
Other nonreimbursable uses:		
Procurement of military equipment	58.3	16.4
Loans for multilateral trade and economic development	157.75	44.2
Total	356.7	100.0

The largest amount of foreign currencies acquired in the program—$158 million—is earmarked for loans to promote multilateral trade and economic development. This operation, as provided in the Executive order for carrying out the legislation, is under the supervision of the Foreign Operations Administration (FOA). The loans may be made under the law through established banking facilities of the friendly nation from which the foreign currency was obtained or in any other manner that is deemed to be appropriate. Strategic materials, services, or foreign currencies may be accepted in payment.

Much of the emphasis in connection with these loans has been placed to date on their use for economic development, and the attention devoted to the promotion of multilateral trade has been much less during the first year of negotiation of programs. It is believed that much of the longer run results that can be beneficial in developing new markets for U.S. agricultural commodities will come from placing more emphasis on loans that will help promote multilateral trade.

The rest of the foreign currencies will be used as follows: For purchasing strategic materials, $2.8 million; for purchasing goods for other countries, $13 million; and for financing the International Educational Exchange Program, $3 million.

Title II, Public Law 480 is administered by FOA. Like Title I, it concerns agreements with friendly foreign governments for the shipment and use of surplus agricultural commodities; but it involves gifts of such commodities, not sales. The provision of such commodities from CCC stocks is authorized under Title II to help meet famine or other urgent relief needs. FOA has estimated that

$125 million worth of surplus agricultural commodities will be programmed under Title II.

FCA Financing. Section 402 of FOA's legislation for the past year required that part of that agency's funds be used to finance exports of agricultural commodities. This is an important means by which the government can help increase the flow of American farm products to foreign markets. For the current fiscal year, authorizations under this section, plus some deobligated funds used from the previous year, may total over $400 million.

The more important commodities covered by this year's authorizations under Section 402 include cotton, wheat, coarse grains, fats and oils, dairy products, and some dried fruits.

The results from these various disposal programs is encouraging. For 1954-55, agricultural exports are estimated at over $3.1 billion, 7 percent ahead of 1953-54.

On the whole, most U.S. agricultural commodities are doing well on the export record this year. Cotton, tobacco, vegetable oils, fruits and vegetables, and livestock products are all doing better than last year. Grains and feeds are running behind, owing to smaller exports of corn and rice.

This general improvement in our exports reflects a number of important factors. Economic conditions and purchasing power have improved in many areas abroad, particularly in Western Europe. The gold and dollar holdings of a number of countries have increased and, in some instances, this increase has led to moves toward freer trade and relaxation of restrictions. Larger sales also reflect the poorer crop, qualitywise, in Western Europe last year, as well as more effective selling and promotional work by our export trade. Finally, the various government programs authorized by the Congress have widened the area in which our producers and exporters have a chance to compete.

Five principal takers of U. S. agricultural exports in 1954

(In millions of dollars; by calendar year)

	Total	*Grains, flours and preps.*	*Cotton and linters*	*Fats, oils and oilseeds*	*Tobacco, unmanufactured*	*Fruits, nuts, and vegs.*
Total:						
1950	2,873.0	838.0	1,024.0	270.0	251.0	179.0
1951	4,040.0	1,488.0	1,146.0	467.0	326.0	212.0
1952	3,427.0	1,481.8	873.5	304.4	245.5	251.2
1953	2,843.8	1,058.1	521.2	310.3	340.8	251.4
1954	3,046.3	749.4	787.7	493.5	303.1	295.0
Japan:						
1950	349.0	90.0	219.0	21.0	(1)	2.0
1951	420.0	148.0	182.0	55.0	2.0	2.0
1952	428.7	183.7	176.1	39.6	6.3	2.3
1953	367.2	142.8	115.7	66.4	8.5	3.0
1954	417.7	142.3	175.1	69.2	5.9	1.6
United Kingdom:						
1950	265.0	55.0	101.0	1.0	84.0	8.0
1951	501.0	139.0	100.0	54.0	147.0	7.0
1952	273.9	100.9	87.3	26.0	36.3	7.7
1953	295.9	84.9	53.4	9.6	126.8	8.0
1954	362.7	82.6	92.5	38.3	109.8	17.4
Canada:						
1950	248.0	48.0	64.0	38.0	2.0	70.0
1951	300.0	35.0	88.0	44.0	1.0	86.0
1952	259.3	26.4	53.3	35.8	.9	114.0
1953	246.3	21.7	40.9	32.8	1.7	112.0
1954	298.5	29.8	50.9	44.7	1.6	130.5
West Germany:						
1950	358.0	113.0	115.0	51.0	33.0	5.0
1951	366.0	199.0	112.0	20.0	27.0	1.0
1952	279.3	115.2	79.1	25.0	44.7	5.3
1953	218.8	72.6	44.3	24.2	43.2	5.1
1954	266.8	62.5	88.9	44.1	26.8	10.0
Netherlands:						
1950	134.0	51.0	38.0	22.0	11.0	5.0
1951	158.0	63.0	44.0	27.0	11.0	6.0
1952	159.3	64.7	29.3	34.1	16.4	8.0
1953	133.9	40.5	12.9	39.1	16.6	10.1
1954	246.4	43.1	21.8	110.7	17.0	19.2

(1) Less than $500,000.

These five countries took over half the $3,046 million worth of United States farm products exported in 1954; and all five took more in 1954 than they took in 1953.

Cotton Crops Increase In Central America

(Continued from page 133)

Ginning and Classing

In all three countries ginning facilities are inadequate for the greatly increased crops; and at the height of the harvesting season, though the gins operate 7 days a week and 24 hours a day except for occasional time out for maintenance and repair, cotton comes in from the fields faster than the gins can handle it. In mid-February, the time of my visit to Nicaragua, I saw cotton being brought in at about the same rate as it was being ginned, but in each gin yard lay waiting large mounds of seed cotton—the equivalent of 3,000 to 6,000 bales—all of them without cover. To get the ginning done before the rainy season sets in and spoils the unprotected cotton constitutes a real problem.

El Salvador has partly solved this problem by building 18 to 20 storage bins around each ginning plant. These bins, which provide all-weather protection, have a total capacity of 22½ million to 25 million pounds. Each bin is divided into compartments so that each grower can deliver his cotton to the gin as fast as it is picked and yet keep it separate from everyone else's. The cotton is moved the 200-300 feet from the bins to the gin by suction through large pipes.

Nicaragua has 21 ginning plants, with a total of 73 stands; and 2 or 3 more gins are planned for 1955. Each stand has a total present capacity of about 2,500 bales a day during the top of the season.

El Salvador has 4 gins in operation, with 5 stands in each. Each plant can gin about 150 bales a day. Two new gins are planned for 1955, and the capacity of one now in operation will be doubled this year.

Guatemala has 8 gins, with 26 stands. Two new gins, perhaps 3, with 4 stands each, are expected to be installed in 1955.

Gin yields throughout the region are reported to average approximately 38 percent, or 1 pound of lint from 2.65 pounds of seed cotton. Most of the cotton ginned in Central America ranges in staple length from $1\frac{1}{32}$ to $1\frac{3}{32}$ inches.

In Nicaragua most of the hand-picked cotton is graded Middling and Strict Low Middling; machine-picked is graded considerably lower. In El Salvador 50 percent of the 1953-54 crop was classed as Middling Bright; 26 percent, as Middling Gray and Middling Spotted (both equivalent to the Strict Low Middling); and 16 percent, as Strict Middling. And in Guatemala about 60 percent of the 1953-54 crop was classed as Strict Low Middling; 26 percent, as Low Middling; and 10 percent, as Middling.

Bales weigh from 510 to 530 pounds, gross, with a tare weight of 15 to 18 pounds. In Nicaragua and El Salvador the bales are covered with hessian cloth; in Guatemala, with thin cotton cloth.

Marketing

In Nicaragua local mills consume only about 5,000 bales annually, and there is no immediate prospect that they will increase their demand. The rest of the crop is exported, chiefly to Europe and Japan.

El Salvador cotton is marketed by the cooperative, and the proceeds are divided among members on the basis of the weight of seed cotton delivered to the gins. It is sold on type, subject to arbitration at the destination. Local mills usually consume 12,000 to 13,000 bales a year; the cooperative has recently purchased a mill and is expected to increase this figure by 1,000 bales. The rest of the cotton is exported.

In Guatemala the local spinning and weaving industry buys its cotton in the form of seed cotton and gins it in its own plants. It consumes about 12,000 bales a year and has no immediate prospect for using more. Sales for export, made by the cooperative members and the government, are conducted once a week during the ginning season at the cooperative's headquarters in Guatemala City. Sales are made through a system of auction that involves receiving sealed bids.

Transportation and Port Facilities

Road systems and port facilities are still inadequate for getting cotton to markets; but new roads are under construction in all three countries, and port improvements are planned in Nicaragua and Guatemala.

Nicaraguan cotton is exported from the northern port of Corinto and the southern port of San Juan del Sur. Managua, which lies inland midway between the two, is a principal cotton-receiving center. Railroad transportation is available from Managua to Corinto, and a secondary road connects Managua with San Juan del Sur.

At Corinto the wharves can accommodate two oceangoing vessels at a time, but much of the loading is still done by lighter. San Juan del Sur has no docking facilities for large vessels, and all loading is done by lighter. Warehouse space is inadequate in both ports.

In El Salvador both highway and railroad transportation and port facilities are considered adequate for cotton. The Pan American Highway, with other paved roads and all-weather gravel roads, forms a system that connects nearly all cotton areas with seaports and other important towns. Railroad transportation is available from all gins to the port of La Unión, which handles nearly all cotton exports and can load two oceangoing vessels at a time.

In Guatemala the roads to present cotton areas are adequate for dry-weather hauling, and some new construction is under way. The port of San José is the only outlet for exports but it has no channel for oceangoing vessels; cargo must be moved by lighter to the vessels, which are anchored one mile offshore. Most of the country's cotton is produced within 50 miles of this port and is brought out either by the single railroad or by truck.

Costs of Production

Cost-of-production estimates (given here in U.S. equivalents) vary with each country, ranging from $135 to $160 per acre. Most variations are due to differences in use of fertilizer and insecticides and to the fact that differences in yields per acre affect ginning costs.

Rent for cotton land ranges from about $20 to $30 an acre.

Cotton pickers are paid from 80 cents to $1.50 per hundred pounds, and in some places they are provided also with meals, shelter, and transportation; adult laborers pick about 100 pounds a day. Wages for hoeing cotton, in Guatemala, for example, are 1 cent for each 40 yards of row; for driving a tractor, $2.50 a day; and for operating a bulldozer, $3 a day.

The cost of applying insecticides by airplane every 5 or 7 days was estimated by one source in Nicaragua to be $45 an acre for the season. In El Salvador it was computed to range from $46 to $70 per acre, depending on the number of applications.

Charges for ginning were said to be $15 a bale in Guatemala. In El Salvador, on a mutual-cost basis, they were $6.40.

Cottonseed is piled outside a gin near Escuintla, Guatemala. About half of Guatemala's cottonseed is exported now, and the other half is crushed by the two local mills.

Transportation costs in Nicaragua can probably be considered typical for the area. There, railroad charges from Managua to Corinto are $1.35 a bale; and an additional $2.40 per bale is charged to place the cotton on the wharf ready for loading. To move the cotton by truck from Managua to the port at San Juan del Sur costs $3.75 a bale.

Financing

The National Bank of Nicaragua is the official agency in that country for making cotton-production loans. Producers using tractors may borrow up to 1,050 córdobas per manzana ($91 per acre); those not using them, up to 1,100 córdobas ($95). The interest rate is 6 percent annually plus 1 percent for service. The bank, using funds derived from International Bank loans, also grants 3-year loans to producers for imported equipment. One-third of the loan must be repaid at the end of each of the 3 years. The maximum loan available to any individual is 1,750,000 córdobas ($265,150).

In El Salvador, however, no loans are available to growers, either from the government or from the cooperative, but the cooperative advances 22 colones per quintal of seed cotton (8.7 cents per pound) when the cotton is delivered to the gin. Limited foreign credit for importing machinery and equipment is available, most of it from United States and German exporters of farm machinery.

In Guatemala, capital is still scarce for produc-

tion loans, construction, import buying, and investment, partly because of a $50-million flight of capital just before July 1954 and partly because of the $55 million internal debt left by the previous regime. Government loans are available up to $50,000 to each eligible borrower at 8 percent interest plus nearly 2 percent in other charges. These loans provide some aid for imports of equipment but the sum available is not enough to insure further construction of gins and mills.

Prospects

There is no doubt that Central America still has much fertile land—chiefly in Nicaragua and Guatemala—that could be turned into cotton and could eventually bring annual production up to the 900,000 bales envisioned by some estimators. But much of this land is jungle and will be difficult, slow, and costly to clear. In Guatemala it is said that the chief barrier to early expansion into such areas is the shortage of heavy equipment, especially tractors, and of capital with which to buy it; and growers mention the availability of suitable land as the principal factor that will determine the upper limits of expansion. In Nicaragua, on the other hand, it is estimated that by further diversion of pasture and other croplands to cotton and by further clearing of jungle, cotton production will be increased 50 percent in 1955; and local growers forecast that within a few years it will reach 400,000 bales.

The difficulty of clearing land for cotton, however, is not the only problem that Central America faces in increasing cotton production.

For one thing, it is evident that Central America has already expanded production beyond the available facilities for efficient ginning, transportation, warehousing, and seaport loading.

For another, cotton cultivation apparently has drawn too heavily on the land ordinarily used for pasture and food crops. Cattle numbers are declining (though reportedly not in Guatemala, where the pastures have been so understocked in recent years that the diversion of about 40,000 acres of pasture to cotton has not yet occasioned any noticeable reduction in cattle population). Food prices have risen sharply in the past year. And many crops normally exported are now being imported.

The various plans for cotton expansion, therefore, may eventually be curtailed in the interest of greater balance among agricultural crops. In Nicaragua, for instance, the president has recently announced a 3-year program for economic stability and development, which includes a plan to restore production of basic food commodities to the level of national requirements. A sum of about 24 million córdobas ($3.6 million) is authorized to supplement private capital in this undertaking. The program involves many phases of economic developments and improvements, including opening of new lands for cultivation, but present plans do not call for the diversion of any cotton acreage to other crops.

In El Salvador all farmers growing cotton are required by law to obtain a permit and register the number of acres of cotton to be planted, but thus far there have been no restrictions on the area that each may plant. Further increases in acreage, however, are expected to be small due to crop requirements. Potential production without serious reduction of grain crops is estimated at slightly more than 100,000 bales from an equal number of acres.

All in all, the general uptrend in prices available to farmers for food crops, together with the increasing world surplus of that commodity, may contribute to a leveling-off of production in Central America, so that the peak of production in the next few years may well be between 500,000 and 600,000 bales instead of 700,000 to 900,000 bales.

In this gin near Managua, Nicaragua, cotton bales are weighed as soon as they are removed from the press.

Grading and Sale of Wool In Australia and New Zealand

(Continued from page 112)

to the further development and refinement of wool marketing in the United States.

Except in Queensland and New South Wales, all the bulk classing and reclassing are done by wool-selling brokers. In Queensland and New South Wales these service are provided chiefly by a co-operative known as Grazcos.

Woolgrowers formed this cooperative during a period of labor strife shortly after World War I, in order to get a sheep-shearing service. For several years this cooperative did only shearing, but eventually it began to provide the services of bulk classing and reclassing. During recent years it has done not only the shearing for 8 million sheep a year but also the classing, binning, and baling of the wool. Current rates for these combined services amount to approximately 40 cents per head. Most of the bulk classing is done for both large and small growers; most of the reclassing is done for small growers, those who have fewer than 1,000 sheep.

Grazcos neither buys nor sells wool but, on a consignment basis, prepares wool for sale. A large grower may consign his oddments directly to Grazcos but send his fleeces to his broker; then Grazcos, after bulk classing the oddments, turns them over to the broker for sale. For such an arrangement Grazcos has developed an elaborate system of accounting and record keeping so that each grower's oddments can be auctioned and paid for at the same time as the main portions of his clip. Small growers are likely to send their entire clip to Grazcos for both bulk classing and reclassing. Many of these small clips are blended by the co-operative before being sent to the broker.

Auctions

The wool-selling season runs from late August or early September until the following June. Auctions for the season are scheduled for each center in accordance with a plan drawn up by the wool-selling brokers' associations in cooperation with the wool growers' organizations and the wool-buying brokers' associations.

The wool is offered on a "first in, first out" basis except that a part of the clip from New South

Buyers leap to their feet to bid for wool at a public auction in Sydney; the name of each buyer's firm is clearly set forth behind him. Between 90 and 95 percent of the Australian wool clip is sold at such auctions.

Wales is offered before it would ordinarily come up. This exception permits the especially fine wools from that area to be sold throughout the wool-selling season instead of being held until their turn, which would come at a time rather late in the season.

Auctions are held in special auction rooms; and one auctioneer works for all the selling brokers in each center. The speed at which the wool is sold is amazing: 200 to 400 lots in an hour is not unusual.

After the auction, the buyers have a limited time in which to draw samples and inspect the wool they have purchased. If they find bales that were not properly represented by the samples, they have recourse to refunds through an arbitration committee. The in-warehouse weights are used in all transactions except for bulk-classed or reclassed wools.

On each auction sale held in Australia the Australian Wool Bureau gathers complete information on such matters as the number of bales, the net weight, the type, and the price; and on each auction in New Zealand the New Zealand Wool

The fleece falls away from the sheep in one piece under the skillful hands of an experienced machine shearer.

Commission gathers the data. This information is then funneled to central offices for statistical analysis.

Growers show great interest in market trends. Since all wools are sold at public auction, information is easy to obtain; and market news is promptly broadcast by radio and published in newspapers in both countries.

Wool-Buying Brokers

Wool-buying brokers purchase wool on order for overseas customers. Each wool-buying brokerage firm has a seat in the auction room; and only recognized and established brokers are permitted to buy.

These firms have a highly specialized business. To succeed they need not only to be highly responsible financially, but to have an intimate knowledge of wool quality, prices, and the requirements of particular customers. They have representatives in most of the major wool-selling centers of the world, as well as in the large consuming centers, such as Boston and London.

Before each auction the appraisers for these firms inspect the wool on the well-lighted show floors of the selling brokers and mark in the catalog their limit for the particular types they have orders for. An order may be placed by their customer for an at-market value or by a maximum for a given type. At times the brokers buy better wool than their customer specifies; for example, the customer may specify type 77 but the broker may purchase type 39, superior to 77, if it costs no more.

Most of the purchases are made on a percentage commission basis, but the brokers usually have to figure costs, insurance, and freight in order to stay within limits specified by their customers. They also make arrangements for having the wool shipped to their customers.

Wool Standardization and Appraisal

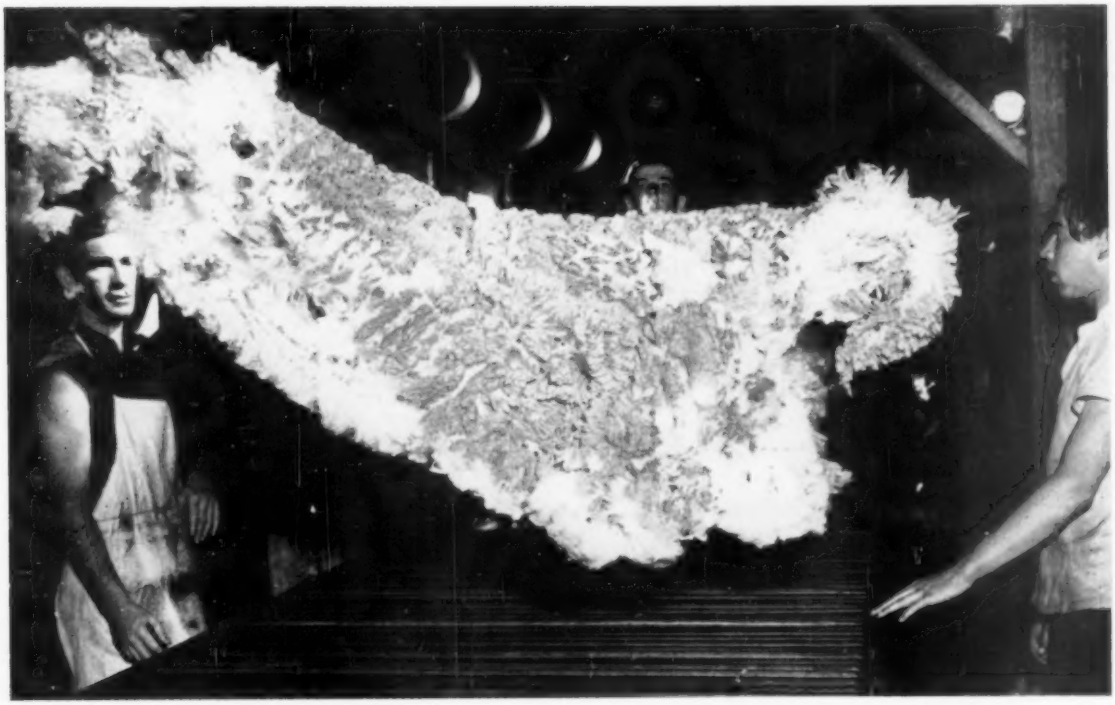
Both Australia and New Zealand have developed amazing systems for standardizing their wool by types. The Australians have some 1,500 types; the New Zealanders, between 900 and 1,000. These types cover everything from the best to the worst.

The standards for each type are purely subjective, for there are no specifications to show inches, microns, or the like.

These systems are the result of work that was carried out during the appraisal schemes of World War I and, particularly, World War II. Appraisers have been trained by highly skilled wool specialists and have worked so long together that now they all pretty much see the wool in "the same mind's eye." The Australian Wool Bureau has six appraisers who go from store to store and from center to center to see that the appraisals are uniform throughout the country. The New Zealand Wool Commission has a similar team.

The training processes that wool appraisers, called wool experts, go through in those two countries is becoming more and more technical, with colleges and universities playing an increasingly important role. There is evidently great demand for graduates of such schools as the Gordon Institute of Technology at Geelong, the Wool Technology Department of the University of Sydney, and the Wool Technology Department of Massey Agricultural College at Palmerston North, in New Zealand. At all these schools students receive not only academic and laboratory training but also do practical work in wool stores. At Massey, for example, each student is required to obtain samples of hundreds of types of wool, make them up into a catalog, and learn to recognize them by type description; he must also learn how to estimate yield with fairly high accuracy.

There is no doubt, however, that development of the skill to appraise so many types of wool accu-



The camera's quick eye catches a fleece in mid-air, just after it has been thrown with the approved smooth motion that lays it flat on the skirting table, weather-side up.

rately is made easier by the uniform preparation that the wools undergo before they are appraised. Appraisers examine only small parts of the sample bales set out in the showrooms; and some of them told us that the only reason they handle any of the wool is to check the estimates that they have already made on the basis of eye examination alone. One leading appraiser in New Zealand, for example, looked at a bale of wool from a distance of 3 or 4 feet and declared it to be of a certain type. When I asked him how he could decide so emphatically, his answer was, "Why, it's written all over the wool!"

Almost unbelievable is the degree to which several appraisers, working separately, come up with the same conclusion about a sample of wool, or the degree to which one appraiser repeats his evaluation of the same sample even after considerable time has elapsed between his two appraisals.

The opinion seems to be fairly general throughout both countries that objective tests such as spinning counts and micron tests for fineness are unnecessary and even undesirable. The chief argument offered for this position is that fineness is only one factor in spinnability and that an exact measure of it would still not tell everything about the wool. As for fiber diameter, it is held, visual estimates are sufficiently accurate for all practical purposes.

But not everyone in Australia and New Zealand reposes such confidence in subjective estimates. Professor W. Roy Lang of the Gordon Institute of Technology, for example, has done much research on the accuracy of visual appraisal for fineness, length, and yield, and is skeptical about the ability of appraisers to estimate accurately by subjective methods alone. He has demonstrated, for example, that the limit of visual acuity for the diameter of wool fibers is at approximately 2.5 microns. He is hoping to conduct some research to discover if core sampling for yield gives enough of an increase in accuracy to make it worthwhile for Australia and New Zealand to adopt the use of a core-sampling machine like that used in the United States.

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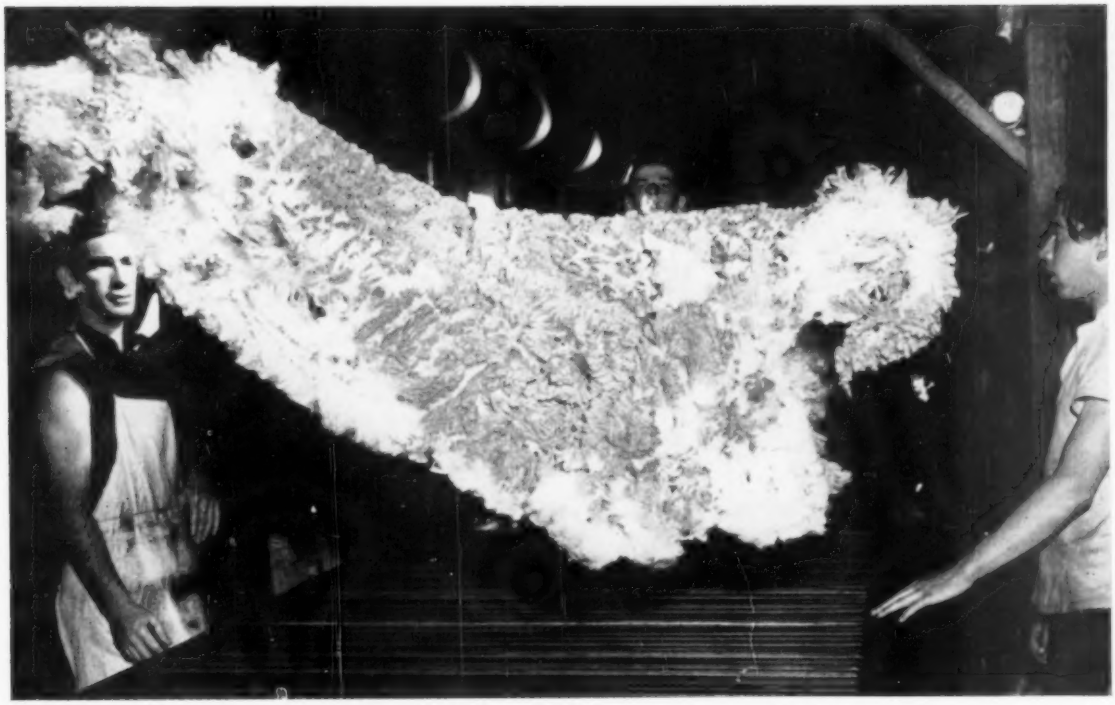

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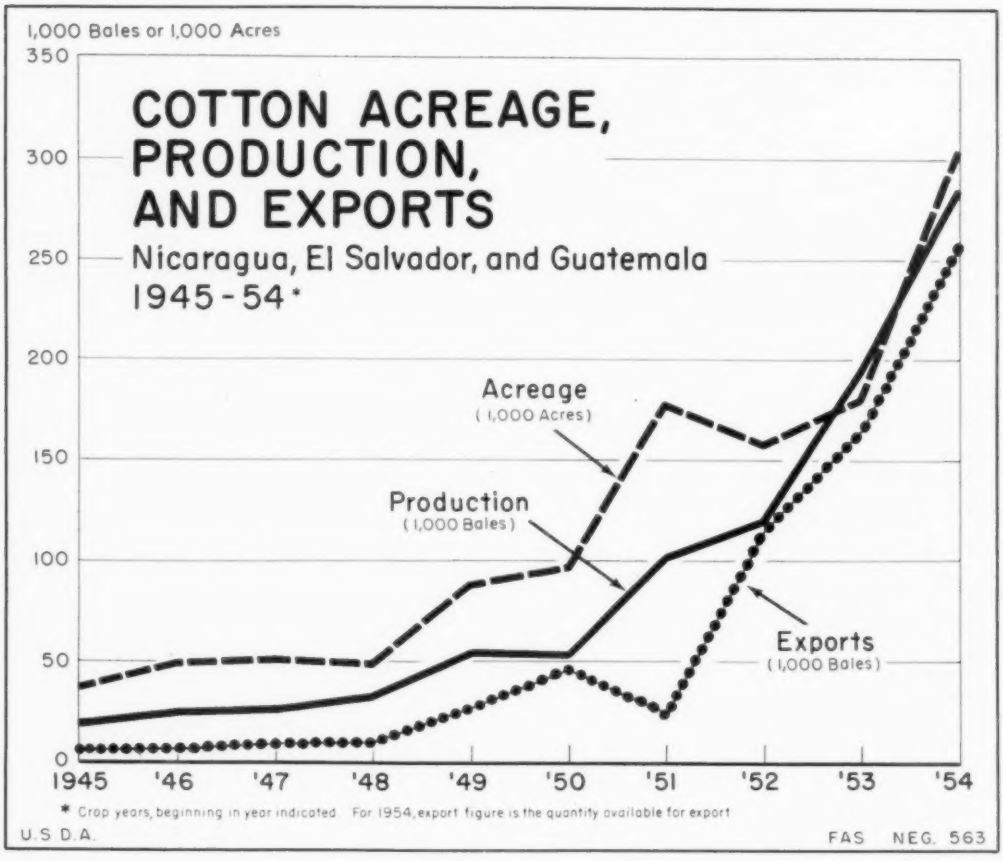
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